

CLAIMS

1. A composition for inhibiting the growth of microorganisms on non-cellulosic fibres having a moisture regain of  $\leq 5\%$ , comprising;
- 5           i)       1 to 50 wt% of at least a self-crosslinkable resin;
- ii)       0.25 to 20 wt% of at least a catalyst;
- iii)      0.1 to 4 wt% of at least an antimicrobial active agent, reactive with the resin;
- iv)      98.65 to 26 wt% of water;
- 10       wherein i) + ii) + iii) + iv) = 100%.
2. A composition according to claim 1 where the non-cellulosic fibres have an acid value  $\leq 5$  mmol/kg.
- 15       3. A composition for inhibiting the growth of microorganisms on non-cellulosic fibres having an acid value of  $\leq 5$  mmol/kg, comprising;
- i)       1 to 50 wt% of at least a self-crosslinkable resin;
- ii)       0.25 to 20 wt% of at least a catalyst;
- iii)      0.1 to 4 wt% of at least an antimicrobial active agent, reactive with the resin;
- 20           iv)      98.65 to 26 wt% of water;
- wherein i) + ii) + iii) + iv) = 100%.
- 25       4. A composition according to claim 3 where the non-cellulosic fibres have a moisture regain of  $\leq 5\%$ .
5. A composition according to any one of the preceding claims where the non-cellulosic fibres are selected from the group consisting of polyester, polyamide, polypropylene, polyurethane and cellulose acetate.
- 30       6. A composition according to any one of the preceding claims where the self-crosslinkable resin is an amino resin.
7. A composition according to claim 6 where the self-crosslinkable resin is a formaldehyde condensate with urea or melamine.
- 35       8. A composition according to claim 7 where the self-crosslinkable resin is selected from dimethyldihydroxyethylene urea and dihydroxydimethylene urea.

- 5 9. A composition according to any one of the preceding claims where the catalyst is selected from the group consisting of  $MgCl_2$ ; ammonium chloride; ammonium sulphate; ammonium salts of formic acid, boric acid, phosphoric acid, oxalic acid; poly(hexamethylene biguanide) hydrochloride and or mixtures thereof.
- 10 10. A composition according to any one of claims 1 to 8 where the catalyst is selected from the group consisting of  $MgCl_2$ ; ammonium chloride; ammonium sulphate; ammonium salts of formic acid, boric acid, phosphoric acid, oxalic acid; and or mixtures thereof.
- 10 11. A composition according to any one of claims 1 to 9 where the catalyst is poly(hexamethylene biguanide) hydrochloride.
- 15 12. A composition according to any one of the preceding claims where the antimicrobial active agent is selected from the group consisting of quaternary ammonium salts, biguanides, monoguanides, and or mixtures thereof.
- 20 13. A method for inhibiting the growth of microorganisms on non-cellulosic fibres having a moisture regain of  $\leq 5\%$ , comprising stages:  
A) contacting the fibres with a composition according to any one of the preceding claims;  
B) optionally drying the fibres contacted with the composition; and  
C) curing the fibres contacted with the composition to effect crosslinking of the resin.
- 25 14. A method according to claim 13 where the non-cellulosic fibres have an acid value of  $\leq 5$  mmol/kg.
- 30 15. A method for inhibiting the growth of microorganisms on non-cellulosic fibres having an acid value of  $\leq 5$  mmol/kg, comprising stages:  
A) contacting the fibres with a composition according to any one of the preceding claims;  
B) optionally drying the fibres contacted with the composition; and  
C) curing the fibres contacted with the composition to effect crosslinking of the resin.
- 35 16. A method according to claim 15 where the non-cellulosic fibres have a moisture regain of  $\leq 5\%$ .
17. A method according to any one of claims 13 to 16 where stage C) is carried out at temperatures in the range of from 100 to 180°C.
18. A method according to any one of claims 13 to 17 where stage C) is carried out for a time in the range of from 30 seconds to 5 minutes.

19. Non-cellulosic fibres having a moisture regain of  $\leq 5\%$  carrying a composition comprising:

- 5 (a) 1 to 10 wt% by weight of the non-cellulosic fibres of at least a self-crosslinkable resin; and  
(b) 0.1 to 1 wt% by weight of the non-cellulosic fibres of at least an antimicrobial active agent, reacted with the resin.

20. Non-cellulosic fibres according to claim 19 having an acid value of  $\leq 5$  mmol/kg.

10 21. Non-cellulosic fibres having an acid value of  $\leq 5$  mmol/kg carrying a composition comprising:

- (a) 1 to 10 wt% by weight of the non-cellulosic fibres of at least a self-crosslinkable resin; and  
15 (b) 0.1 to 1 wt% by weight of the non-cellulosic fibres of at least an antimicrobial active agent, reacted with the resin.

22. Non-cellulosic fibres according to claim 21 having a moisture regain of  $\leq 5\%$ .

20 23. Non-cellulosic fibres having a moisture regain of  $\leq 5\%$  treated with a composition according to any one of claims 1 to 11.

24. Non-cellulosic fibres having an acid value of  $\leq 5\%$  mmol/kg treated with a composition according to any one of claims 1 to 11.

25 25. Use of a composition according to any one of claims 1 to 11 in the treatment of non-cellulosic fibres having a moisture regain of  $\leq$  of 5%.

26. Use of a composition according to any one of claims 1 to 11 in the treatment of non-cellulosic fibres having an acid value of  $\leq 5$  mmol/kg.